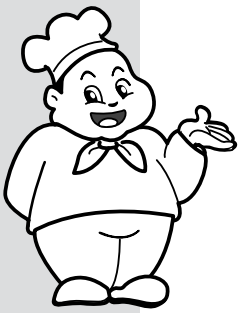
The Features of item



1. Excellent durability

• Stainless body and iron material inside body gurantee the best durability

2. A manual cook is also available

• You can cook rice with a hand operate cock even when electric circuit is break down

3. It's safe

• An automatic gas safe device protects a gas leakage
• Anti-overheat system can protect the overheating automatically
• Safe timer can stop abnormal combusion while you are cooking

4. You can select various modes for cooking rice

• There are four modes(small, standard, serial, grain) you can select.

5. Continuous cooking is available

• If you get an extra pot made by Rinnai Korea and understand how to use this rice cooker well, you can cook rice continuously

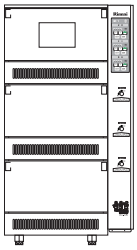
6. The process of cooking is signed automatically.

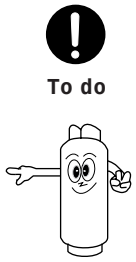
• You can understand how the cooking process is going on by checking blinking lamps

⚠ Warnings

■ Must use the designated gas

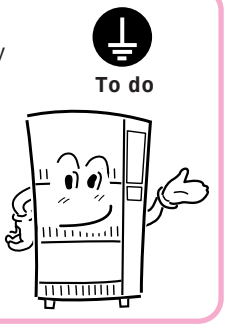
- Use of other types of gas may cause bad ignition or incomplete combustion.
- When you move into other place, you should confirm same type of gas.
- The name table of available gas is attached on upper end of the item right side.
- It is dangerous to convert the item when the gas is different from available one,and please contact our service center to confirm the type of designated gas.





■ Concerning Connection of Electricity

- AC 220V~240V of power is necessary for the item. Please inquire a professional electricity installation agent about wiring.
- AC 220V~240V of power, its ground connection and cable working should be done in accordance with the relevant regulations.
- The relevant regulations: Electricity installation standards, Directions of use for electric appliances, regulations for indoor wiring, etc.
- When you need individually to increase the pressure into 200V in 110V area, ground connection should be worked out.
- Even in 220V~240V area without ground connection of power outlet the ground connection should be worked out, too.



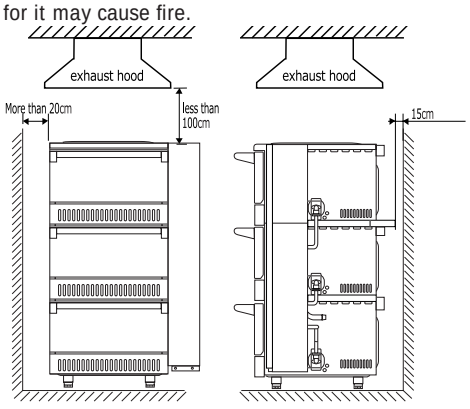
■ Make sure to keep the item away from inflammables.

- When the wall around the item is made of inflammables such as plywood, the item should be placed away more than 20cm in the side and 15cm in the rear. The exhaust hood should be installed over the product.
- Close distance may cause fire. Its use for long time around the wall of stainless steel sheet or steel sheet directly attached on inflammables such as plywood may also cause fire or damage of the wall by heat transfer.
- Heat-proof board should be installed more than 3cm away from the inflammable wall.

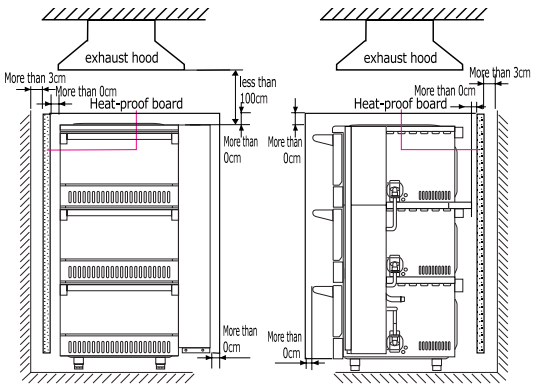
●● It should be made to install according to the structure of user's kitchen on his(her) expense.

- Any other adhered to the item is not allowed for it may cause fire.

Material	Thickness	Cautions
Stainless steel sheet	0.3mm	more than 3Cm away from inflammable wall
Steel sheet	0.5mm	Need to strengthen against transformation



<Heat-proof board not installed>

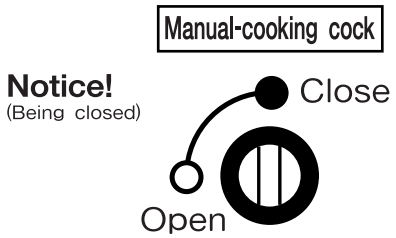


<Heat-proof board installed>

⚠ Warnings

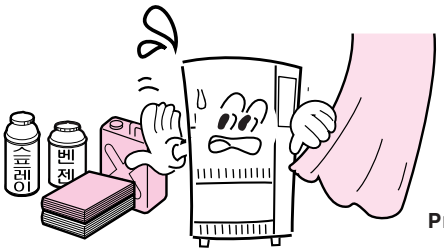
■ Plese don't use a manual-cooking cock except the situation of bleakdown or power outages
- If a manual-cooking cock is opened, it may cause gas leakage and lead to an explosion accident

■ When using a Manual-cooking cock, please lock up it after finish cooking rice



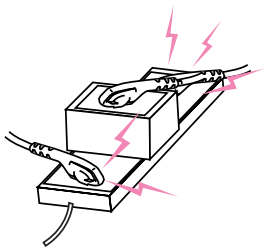
To do

■ **Do not put inflammables near the item.**
- Do not use inflammable gas such as sprays nearby.
- Do not place nearby materials easily to catch fire like curtains, or not put nearby the inflammables like sprays, gasoline and benzene to be use. It may cause fire.



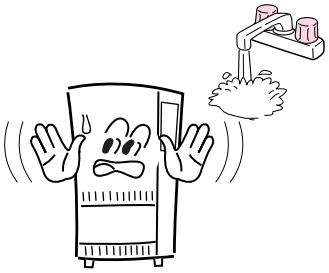
Prohibited

■ **Do not use a number of plugs on one outlet.**
- It may cause abnormal heating or fire and one plug on one out is desirable.



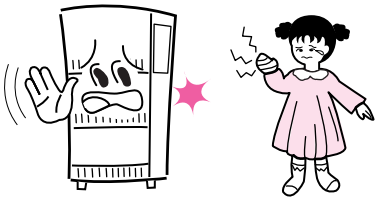
Prohibited

■ **Keep the item away from water.**
- Do not set it up where water splashes.
- On cleaning do not sprinkle water or spill over the item. It may cause the dangers of incomplete combustion, electric leakage or electric shock.



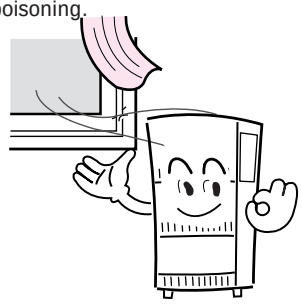
Prohibited

■ **Keep away from children. Do not touch**
- Keep away it from children to prevent the dangers of burn or safety accidents for them.



Don't touch!

■ **Frequent ventilation is necessary on its using. Must do**
- Operate ventilation fan or open window on using. Without ventilating it may cause carbon monoxide poisoning.

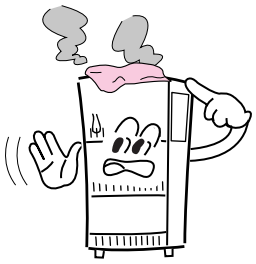


To do

⚠ Warnings

■ **Do not block ventilator.**

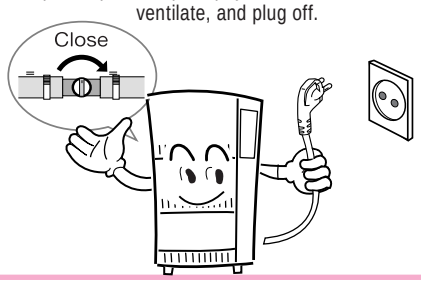
- Do not block ventilator with dish cloth and others. It may cause incomplete combustion or malfunction.



Prohibited

■ **Taking action to abnormal situation.**

- Earthquake or fire
- When abnormal combustion, sound or smell is perceived, stop the operation promptly, turn off the middle valve, ventilate, and plug off.

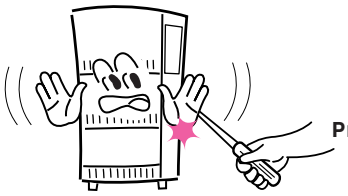


To do

■ **Do not dismantle, repair or remodel except Rinnai service men.**

- Dismantlement, repair or remodeling may cause great impact on the item.

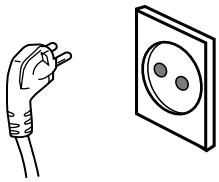
  Refer to user's manual or contact our service center when it is regarded as malfunctioned.



Prohibited

■ **Confirm not to other substance stick to plug and push the plug to the end of outlet.**

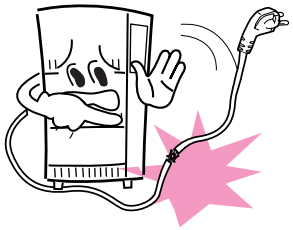
- Other substance stick to the plug or incomplete jointing may cause fire.



To do

■ **Do not scratch, work, extend, break or tie the power code.**

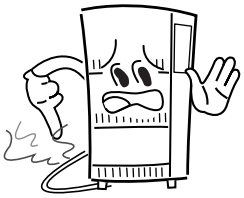
- It may cause breaking the code, fire and electric shock.



Prohibited

■ **Frequent ventilation is necessary on its using. Must do**

- It may cause gas leakage, electric shock or electric leakage with broken gas pipe or power code through touching high heated parts.



Prohibited

■ **Person who has artificial medical equipments such as an artificial heart should consult doctors before use.**

- He(or she) may be affected by operation of item.

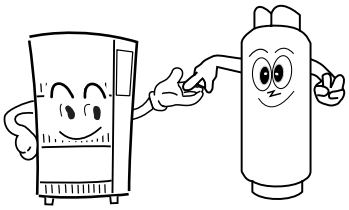
To do

Cautions for Safety

⚠ Warnings

■ **Request a gas agency or its relevant company for gas connection and product installation.**

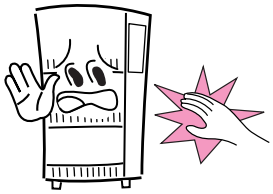
- Arbitrary gas connection or item installation may cause malfunction of the item or fire, which our company is not responsible for.



Prohibited

■ **Do not touch the item while or right after using.**

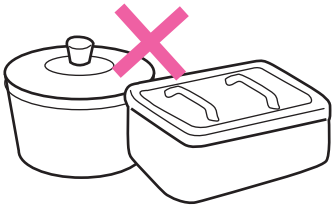
- The item is very hot while or right after using that caution is necessary. It may cause burn.
- Use protection material like gloves to take out the inner pot while or after cooking.



Don't touch!

■ **Do not remove or change the parts of item. And do not use any other aids such as aluminum foil, etc.**

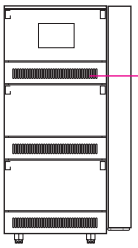
- It may cause carbon monoxide poisoning by imcomplete combustion, fire or damage of item by over heating.



To do

■ **Confirm ignition and extinguishing**

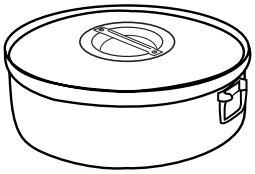
- Confirm normal combustion from ignition identifying window on using.
- Confirm extingushment after use and turn off the middle valve.
- Turn off the middle valve on sleeping or going out.

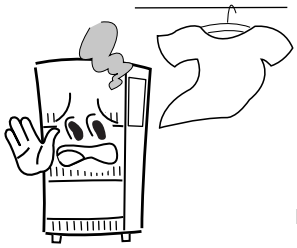


To do

■ **Do not use except for cooking rice.**

- Do not use any parts other than normal ones. It may cause bad rice cooking, item damage or incomplete combustion.
- Do not use the aluminum pot on other general gas range or for other cooking purpose such as making soup, boiling water, ect. It may cause transfomation or color change of the pot, or fire by over heating.
- Using for drying clothes or igniting other inflammable except cooking may cause fire or item damage.



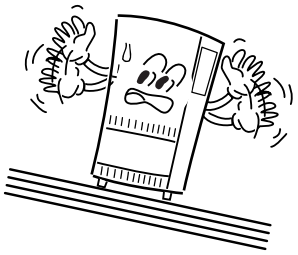


Prohibited

⚠ Warnings

■ Install the item on the bottom flat and fixed.

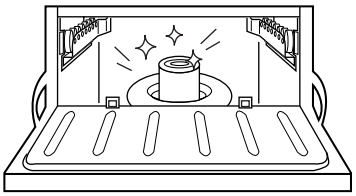
- Do not install it on the instable bottom or the inflammable.
- It may cause fire or bad rice cooking by incomplete combustion.



Prohibited

■ Make sure the heat sensing part always clean.

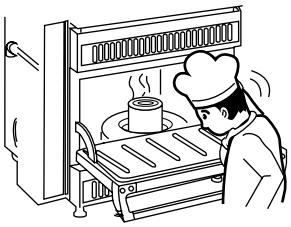
- Other substances stick on the heat reducing part may cause bad rice cooking or damage.



To do

■ Do not open the item to put your face near the combustion room.

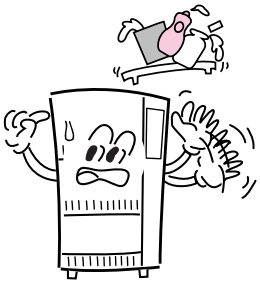
- Keep your face or body away from the combustion room when the door is open on combustion. It may cause burn.



Prohibited

■ Do not use it in which something might drop.

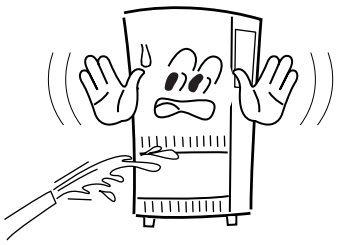
- Dropping something over the item may cause its damage or fire.



Prohibited

■ When water or cooking liquid flows into the combustion part,

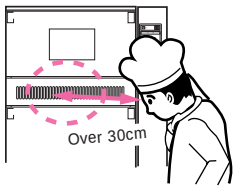
- Moisture or cooking dregs stick to the combustion part may make ignition impossible or cause imcomplete combustion. Use it after removing moisture or dregs.



To do

■ Cautions on igniting

- When it does not ignite at first 2 or 3 times, try again after the leaked gas disappears (in 3 or 4 seconds).
- On wet season or moisture day it might be hard to ignite, and not using for long time might make ignition difficult by pipe with air. Then repeat the action of ignition above.

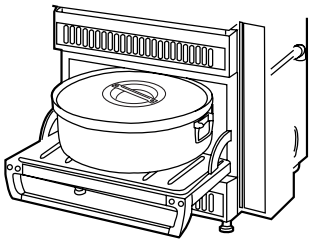


To do

⚠ Warnings

■ Do not use the item while door is open.

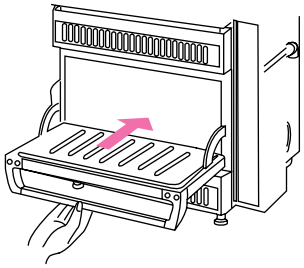
- Lightening on the burner easily goes out when the door is open, and rice cooking does not work.



Prohibited

■ Close the door steadily and firmly.

- Powerful action of closing the door may cause damage.
- Without closing the door firmly the hot heat may leak through a crack in the door to cause the item to transform or change color, or the operation part in the side to transform or get out of order.



To do

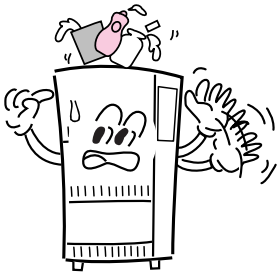
■ Do not heat the aluminum pot with water in.

- Boiling water in the aluminum pot may cause color change of inner pot so refrain from doing it.
- You can still use the pot after color change.

Prohibited

■ Do not put any stuff on the item.

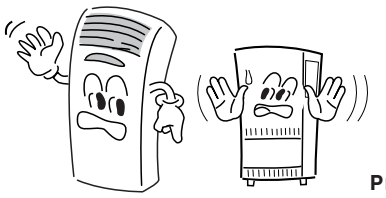
- Do not use the item with any stuff put on. Hot heat occur on the item while cooking rice, and do not put any stuff including the inflammable such as plastic and paper on the item. It may cause the item damage or danger of fire.



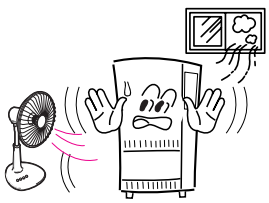
Prohibited

■ Avoid near large combustor or windy place.

- Do not set up the item near the large combustor, but at the place ventilated well. Heat occurred by the large combustor may damage the item or cause bad rice cooking.
- Do not set it up at windy place. It may cause poor ignition, damage of inner item or bad rice cooking, or gas leakage by extinguishing.



Prohibited

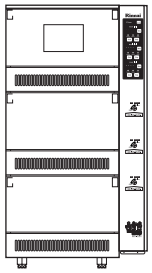


금지

Warnings

■ This is an item for commercial use only.

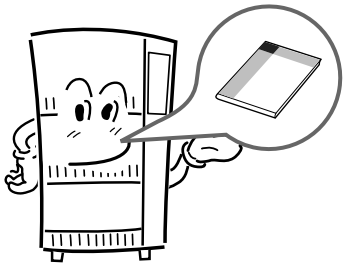
- This is made for commercial use only and do not use for domestic use.



Prohibited

■ When the user changes,

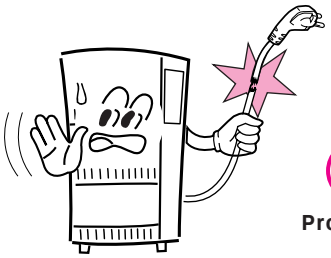
- New user must read and understand the user's manual, then use the item.



To do

■ When plug off, do not take hold of power code.

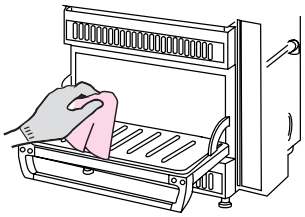
- Taking hold of the code to plug off may cause its damage, electric shock or fire.



Prohibited

■ When cleaning the combustion part in the item,

- Wear the gloves not to hurt with cooling off after closing the middle valve and power.
- It is very hot right after using and the hand may burn.
- Clean in the combustion part wearing gloves because of some projecting parts.



To do

■ Cautions on using

- Proper amount of rice for this item is from the minimum for 20 persons(about 3kg rice) to maximum for 50 persons(about 7.5kg rice).(For 1 level standard).
- Inappropriate amount of rice cooking may cause scorched bottom of the pot or half-cooked condition.
- Rice scaling and the scale in the pot shown in the user's manual are general recommendation. But actual condition of rice and taste of consumer may change.
- Do not use scrubber but soft cloth to clean the pot after soaking. Using hard scrubber may cause the surface of pot worn out and remove the sale.

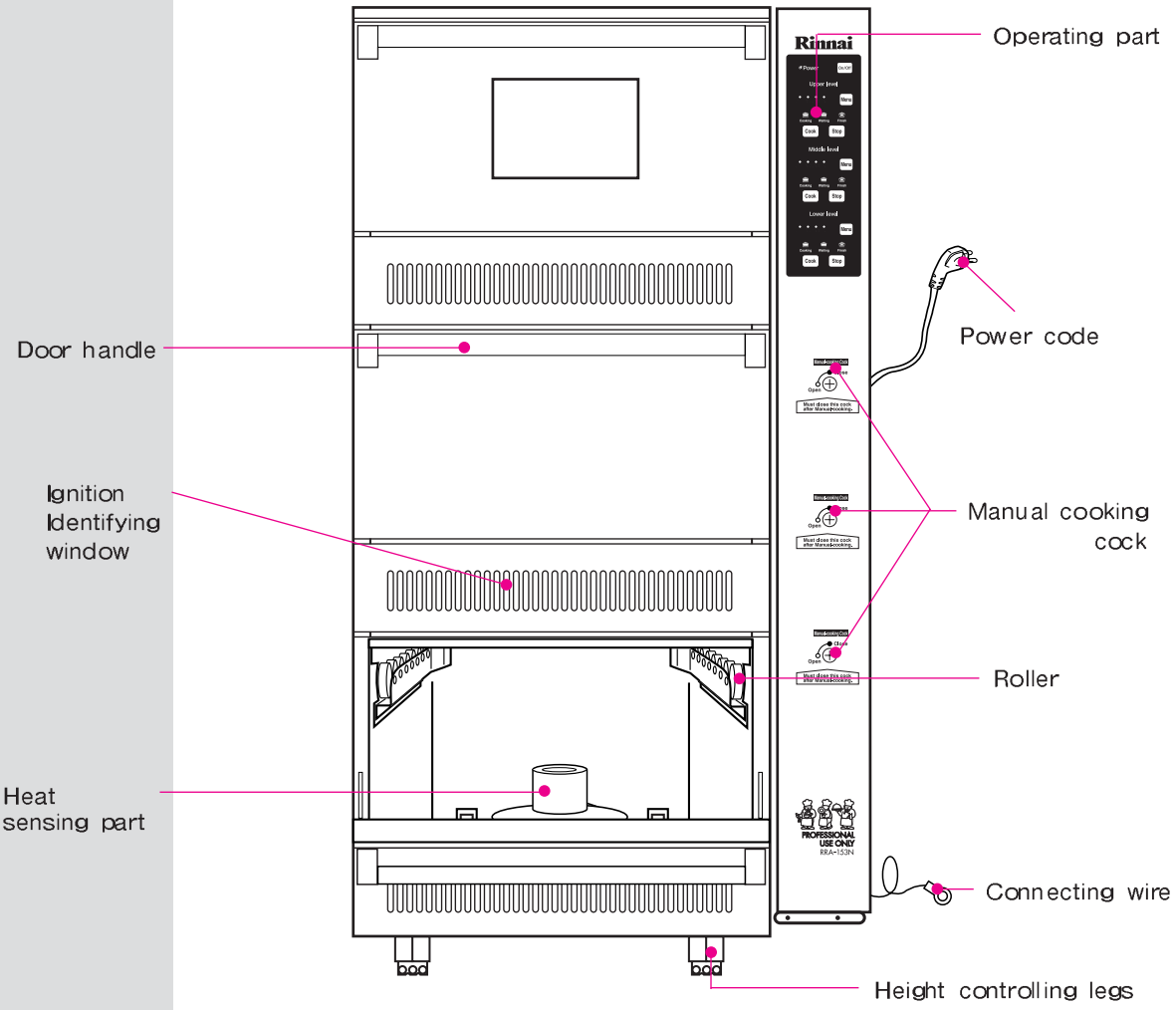
Cautions

■ Less than minimum cooking rice (for 20 persons, 3kg rice) may cause the bottom scorched. More than maximum cooking rice (for 50 persons,7.5kg rice) may cause half-cooked condition.

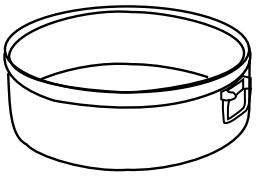
■ When cleaning the pot the friction of the cleaning cloth and the surface of inner pot may cause some gray water, but it is no problem when change clean water.

Name of Each Part

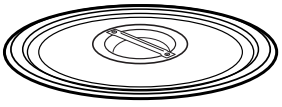
■ The Body (The picture is RRA-153N and RRA-103N consists of 2 levels)



RRA-103N:2EA
RRA-153N:3EA

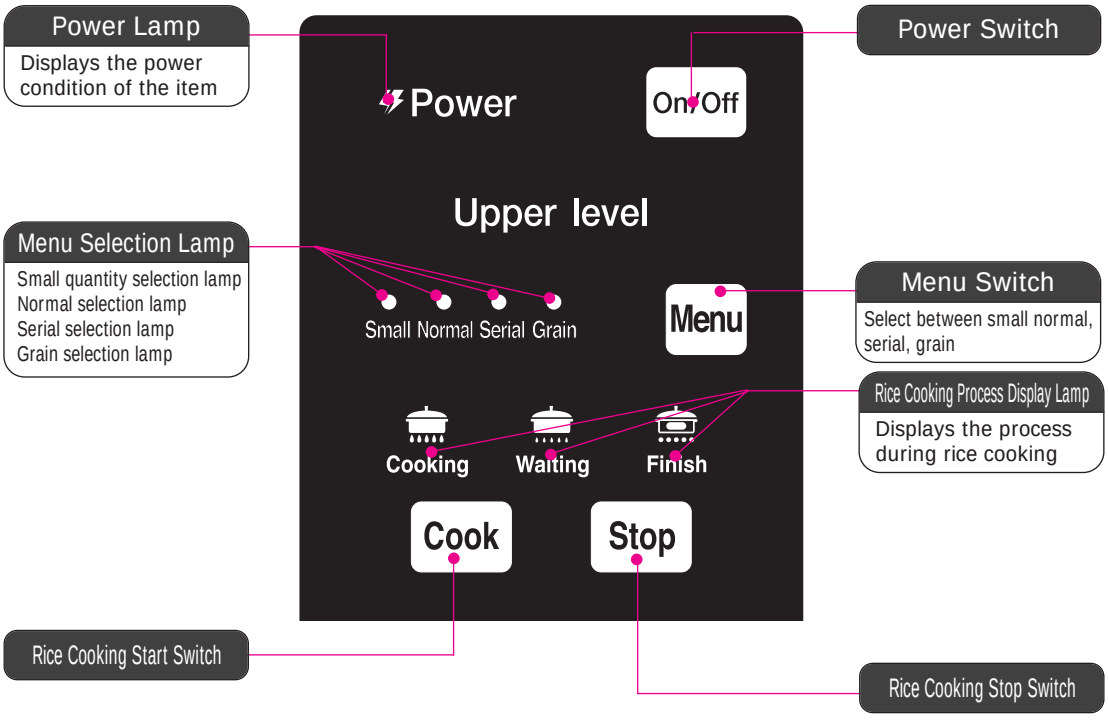


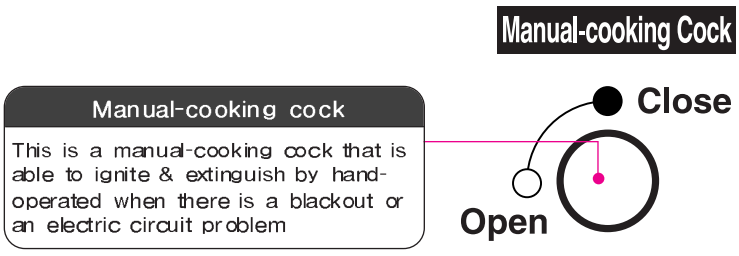
Pot



Pot lid

■ The Control Panel




Manual-cooking Cock
Manual-cooking cock
This is a manual-cooking cock that is able to ignite & extinguish by hand-operated when there is a blackout or an electric circuit problem
Close
Open

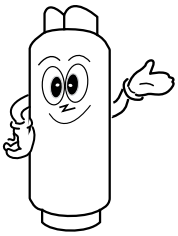
Caution Don't forget to lock up a manual-cooking cock after the rice is cooked, otherwise the gas can be leaked out and It's very dangerous

Assembly & Installation

■ Check the available gas and power.

To do

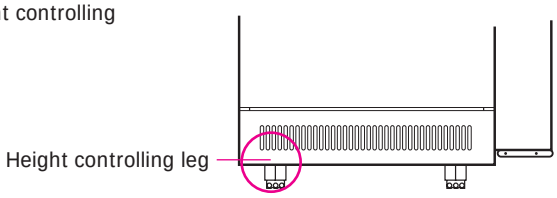
- Be sure to connect the gas displayed on the name table of the product. This product is for low pressure.
- This product is for 220V~240V.
- If available gas is not clear or when it does not coincide with product display, please contact the place where you purchased or service center of our company.
- Please check the available gas.



■ Please set the product at level.

To do

- Set the product at level using the height controlling leg under the product.



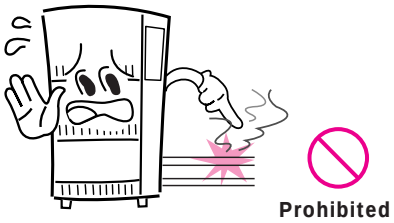
■ Please connect the gas pipe arrangement in this way.

To do

- Request a gas agency or its relevant company for gas connection and product installation.
- Install a middle valve.

Caution

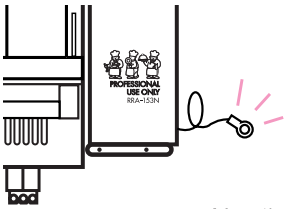
- When gas pipe bursts due to outside shock, there may be fire or damage of the product due to leakage.
- When arranging gas pipe excessively, over burn due to product breakdown or fire due to leakage may occur.



■ Be sure to ground when installing.

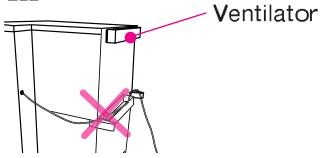
To do

- When power outlet does not have grounding in AC 220V~240V area, please do the grounding construction.



Caution

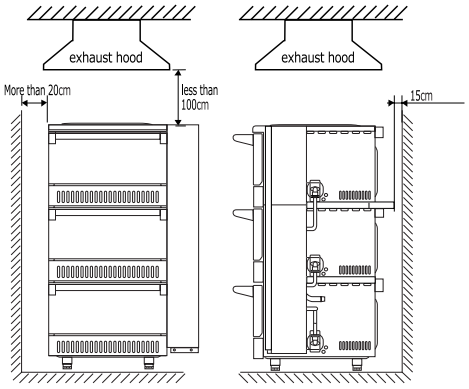
- Please take care of not letting the power cord be passed by an exhaust pipe on the back of products



■ When installing the product, make sure to keep distance from inflammables.

To do

- If the wall around the product is inflammable like plywood, install the product away from the wall over 20cm (side) or over 15cm (rear). Also be sure to install a ventilation hood to top of the product.
- If the distance is too close, it can cause fire. Also if you attach stainless steel plate, general steel plate to inflammable wall (such as plywood) and use for long period, it can cause fire or damage to wall through heat transfer.
- When installing heat plate, maintain the distance between heat plate and inflammable wall over 3cm.

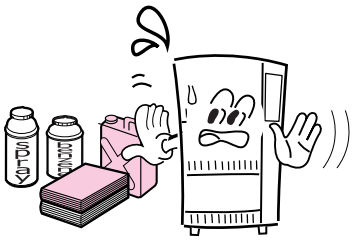


<Heat-proof board not installed>

■ Remove inflammables around the item.

To do

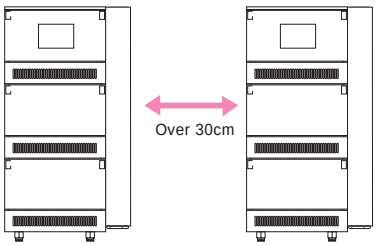
- It causes fire.



■ When installing over 2 items, maintain the distance between the 2 products over 30cm.

To do

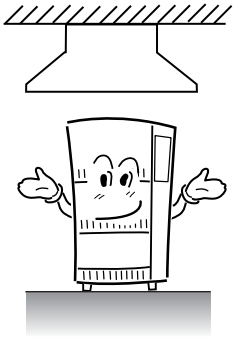
- For smooth service, be sure to maintain the distance between the 2 products over 30cm.



■ Install ventilation system.

To do

- This product exhausts combustion gas in large quantity when operating, so be sure to install ventilation system such as ventilation hood.

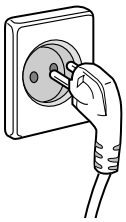


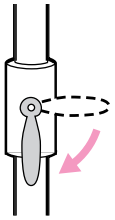
Use Method

To do

■ Check items before using.

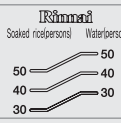
- Check the gas/power you are using.
- Check if there is any inflammable thing such as paper, plastic, oil around the product.
- Open middle valve.
- Check if the power plug is inserted thoroughly in the outlet.
- Press the power switch and check if the power lamp lightened.





■ Rice Measuring (Menu: When selecting normal)

- Measure the rice quantity exactly by using a scale.
-When cooking soaked rice, please refer to a scale mark in the pot
- Rice Quantity Conversion Table

Portion	Rice quantity	Scale mark (for soaked rice)	Time (Steam:10minutes included)
50persons	7.5kg		About 33min
40persons	6.0kg		About 31min
30persons	4.5kg		About 28min
20persons	3.0kg	No scale mark in the pot	About 25min

※ Caution: The maximum rice cooking capacity is 50 people and the minimum is 20. When cooking for under 20 people (rice about 3kg), scorch on the bottom may occur. When cooking for over 50 people (rice about 7.5kg), the rice may be half-cooked.

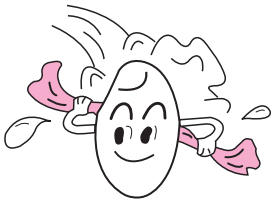
※ In case of cereal, or 5 grain rice, take the rice half the quantity from normal cooking and try to avoid maximum rice cooking.

※ Example) rice: sticky rice: foxtail millet: beans: black rice= 50%: 30%: 10%: 7%: 3% Other than cereals or rice (such as chestnut, jujube) clean it or soak in water and spread it over the rice and try not to mix it.

To do

■ Washing Rice

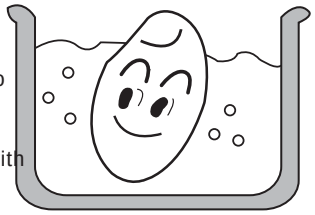
- Wash rice several times (3~4) till clean water comes out. There are rice powder, dust, other pollutant on the rice surface, so wash the rice quickly and throw away the water so the smell does not soak into rice.
- If you wash the rice for too long time, or with too much force, the rice breaks down and it can cause the bad cooking. Wash rice gently.



■ Do not soak rice in water for long period.

To do

- Soak rice after washing. If you wash after soaking, rice may break down and it causes bad rice cooking.
- 30min in summer, 1hour in winter is suitable. If you soak rice for too long (2hours), rice easily breaks down and it causes the bad rice cooking such as early fire extinguish and half-cooked.
- When there is left over of soaked rice, remove the water from rice with a sifter and keep it in the refrigerator.
- In case of grains, make the soaking time same as general rice.



※ Exceptions) In case of red beans, soak it for over 12hours or boil it then cook.

■ Wash the pot cleanly.

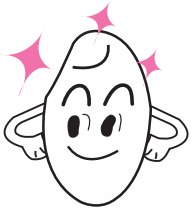
To do

- Always maintain inside and outside of the pot clean. If washing is not thorough inside the pot, it may cause bad cooking.

■ About Selection and Storage of rice

To do

- Please avoid rice with old time of validity, and use rice in opened package. Rice with old time of validity, it easily breaks and soaking time gets longer so it may cause bad cooking.
- Store rice in cool place with low humidity.



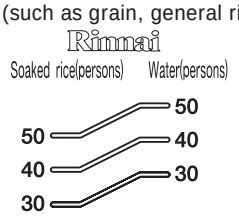
■ Setting water quantity

To do

- Put water & soakec rice to the division line inside the pot.

※ Caution: The division line inside the pot is water level and recommended standard line.

- Example) When cooking for general 30 people rice put soak rice in the pot and set water to 3.0 water level inside the pot.
- Control the water quantity according to rice condition, rice kind (such as grain, general rice) and storage period (new rice, old rice)
- The water level inside the pot is the general standard so control the water quantity & soakec rice quantity according to your taste.
- Avoid maximum or minimum cooking. It may cause scorch or half-cooked rice.



Caution

■ A scale mark inside pot is only for soaked rice

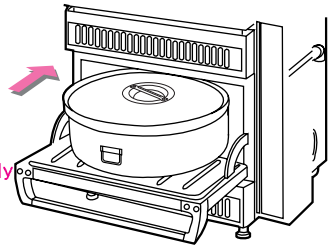
- In case of raw rice, please set the level(water & rice quantity) lower than that of soaked rice.

■ Preparations for Cooking

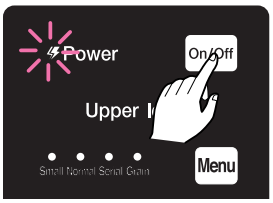
To do

- Open door and cover the pot filled with soaked rice and water with pot lid then push it deep inside the combustion room.
- It is convenient to take out the pot after cooking when you put the pot with the handle facing forward.
- Push the pot to the end then close the door slowly.

Maintain the level horizontally



- Push the power switch.
- The steam time is basically set to 10min



Caution

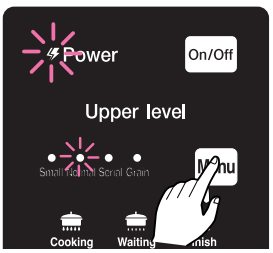
■ when putting or taking out a pot, please try to level it horizontally

• It could be inconvenient to carry out a pot with lifing

■ Set cooking menu

To do

- Push the menu switch of the level you want to cook to select 1 among 'small quantity', 'normal', and 'serial', 'grain'.
- 'Small quantity', 'normal', 'serial', 'grain' on menu select lamp will lighten up in order each time you push the menu switch.
- Once you set the menu, it will be applied as it was to next cooking.



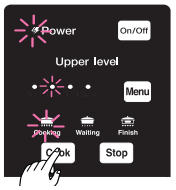
Caution

■ While cooking you can change menu mode by pushing the menu select button

To do

■ Rice Cooking

- After putting the pot filled with soaked rice and water into the level, push start/stop switch. It is automatically ignited and cooking will start.

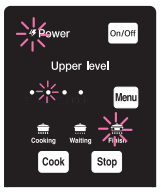


■ Waiting(normal mode)

- When cooking is over, the light on cooking lamp will go off and the process goes to waiting.

- When waiting time is over the buzzer will sound then the light on waiting lamp will go off and completion lamp will be lightened.

<Steaming in process>

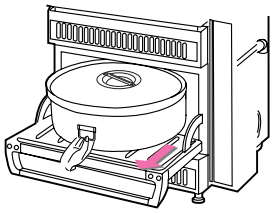


<Steaming complete>

To do

■ Cooking Completion

- When the waiting is over, open the door and pull out the pot.
- At this time, the pot is very hot so always use gloves.
- Push start/stop switch.



Maintain the level horizontally

Caution

■ **Do not load too much weight on the product door. Do not put the pot filled with soaked rice and water or the pot after the cooking on the door. It may cause damage to the product**

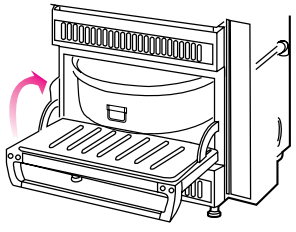
■ **If you let the pot as it is after cooking is finished, the process of steaming will continue**

To do

■ About continuous rice cooking...

- If you are cooking continuously, wash inside the pot cleanly and use it after the heat sensor inside the pot gets completely cool. If you cooking with dregs inside the pot or when heat sensing part inside the pot is not completely cool, bad cooking may occur.
- Put soaked rice and water into the cooled pot then push the pot into the level you want to cook then close the door and always wait for 5min then start the next cooking.

"Close the door and always start after 5min"



Caution

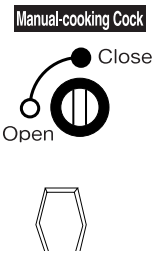
■ To prevent overheating for the safety, this product stops to work automatically if a burner comtinues for over 60minutes.

■ Manual-cooking

※This is the way to cook rice when there is a black out or problem with an electric circuit

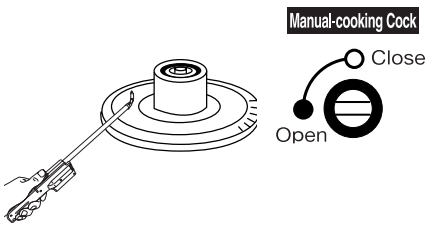
1. Please open the rubber cock

- Please open the rubber cock on the panel by using a screw driver



2. Please ignite a burner

- Open the door, apply your gas pocker to a burner, and open a manual-cooking cock with a screwdriver.
- When it starts to ignite, put your kettle body into the deck and close the door.



Caution

■ Do not open a manual-cooking cock before applying your gas pocker to a burner.
It may cause a fire or an explosion accident.

3. Please close a manual-cooking cock

- Please lock up a manual-cooking cock and get a pot out of the deck 10min after cooking rice(25~35min) is done

※Please refer to page 13 of user's guide book regarding rice cooking hours

※After igniting by a manual-cooking cock, please put a screw driver near the rice cooker

Caution

■ Although rice cooking is finished, the fire can't be extinguishied automatically, so please lock up a manual-cooking cock after using.

- Please lock up a manual-cooking cock and close it with a rubber plug
- Push the rice cooking switchk, and it will work in the standard mode

(Please push the rice cooking switch again, if an electricity is on again after 'electricpower failure' while working)

Checkup and Mending

⚠ Warnings

To do

- When you are checking or mending, close the middle valve and pull out the power plug then put on gloves before doing it.
- You may get electric shock, fire, or injured.
- You can get injured from sharp parts due to the product's property.

Prohibited

- Do not disassemble, repair, or remodel.
- Person other than Rinnai service agent should not disassemble, repair, or remodel.
- One may can injured from over combustion, electric shock, or abnormal function.

Prohibited

- Do not spray water.
- Do not spray water over upper board of the product or exhaust port. It may cause fire, or electric shock due to short circuit.

⚠ Warnings

Prohibited

- During use or right after use, the product is hot so do not touch it.
- Check or mend after the product is sufficiently cooled.
- Do not use inflammables such as thinner or benzene when cleaning.
- Fire may occur if you use thinner or benzene for mending.

■ After checking, mending, check if there is any tool or gloves left inside the product or around the product.

- It may cause damage to product and fire.

Check every day!

To do

- Is fire hole on the burner inside the combustion room not clogged with broth?
- Is there any extra matter or dregs on the heat sensor of gas automatic cutoff device?

Warnings

- When cleaning or mending the product, always wear gloves.

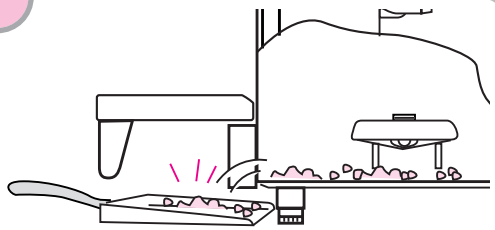
1. Surface of the product

- Wipe with soft cloth.
- The surface may get damaged if you wipe with metal or nylon scrubbing brush.
- In case of overflow, wipe off with neutral detergent then remove the water sufficiently.
- If you let the overflow remained in the product, it will dry up and you may not be able to get it off.

Available	Unavailable
soft cloth	nylon
	metal brush
sponge brush	cooking oil
	acidic or basic detergent
neutral detergent	abradant
	thinner or benzene

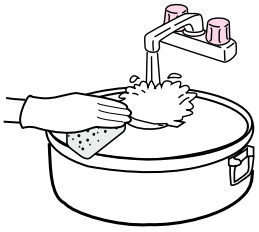
2. Inside the combustion room

- In case of overflow, wipe off with neutral detergent then remove the water sufficiently.
- Clean the food dregs just like the picture with door open.



3. Pot, Pot lid

- Use sponges with neutral detergent to wipe and remove the water sufficiently.
- The surface may get damaged if you wipe with metal or nylon scrubbing brush.



Warning

- When checking or mending, do it after the product is sufficiently cooled.
- The product is hot right after use so it has danger of burn.
- Do not touch the part beside the handle during cooking or right after use.
- The product is hot right after use so it has danger of burn. If necessary, always use gloves.

Measure when error

■ This product stop operating and buzzer will sound 'ppeee' automatically if any problem occurs during use or if you use it incorrectly. Also error mark is displayed on operation display panel.

⚠ Warning

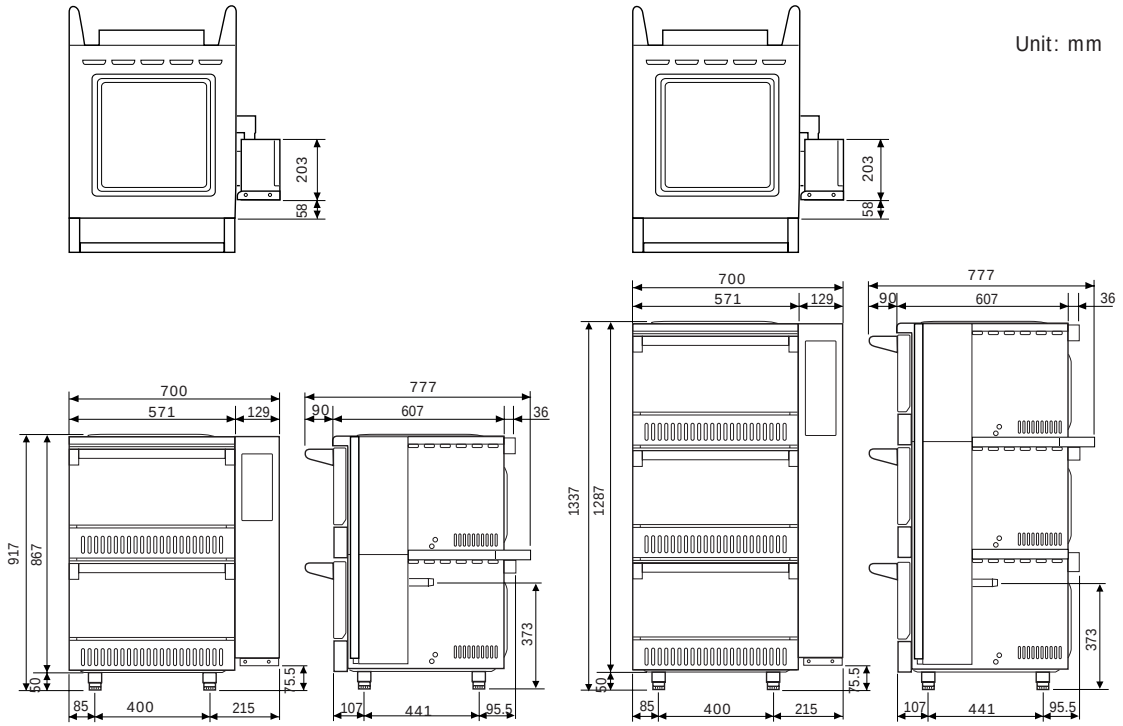
■ If error occurs during use, stop using and shut the middle valve and ventilate air then pull out the power plug.

Error display

Error sign			Cause		Measure
Lamp blinking		Buzzer			
	Cooking	Beep sound	TH disconnection /short circuit	When error occurred in electric circuit	Contact our service center for necessary check-up
	Waiting+Finish		Solenoid disorder		
	Finish		Safe extinguishing timer	When a burner is combusted over 60mins	
	Waiting		Overheating timer	When burning an empty pot continuously	Push "stop switch" to stop error display then restart with different rice. If it doesn't work, contact our service center for necessary check-up
	Cooking +Waiting		Accidental fire on working	When combusion failed due to blowing or suspension of gas supply	
	Cooking+Finish		Ignition disorder	When a burner is not ignited properly	
	Cooking+Waiting +Finish		A fire inside the machine	When starting to ignite before the product is cooled down	

Product Specifications

Unit: mm



RRA-103N (2 levels)

RRA-153N (3 levels)

Product name		Commercial gas automatic rice cooker						
Model name		RRA-103N			RRA-153N			
Width(mm) ×length(mm) ×height(mm)		700 ×777 ×917			700 ×777 ×1,337			
Weight (kg)		100			150			
Connection	Gas	3/4” (20A)						
	Electric	220V~240V / 50Hz~60Hz						
Safety device		Extinguish safety device, Extinguish safety timer						
Power consumption		13W			17W			
Minimum/maximum cooking quantity (kg)		3~15			3~22.5			
Accessories		Pot (2EA), Pot lid (2EA)			Pot (3EA), Pot lid (3EA)			
Gas consumption amount		Top	Low	Overall	Top	Middle	Low	Overall
	LP gas (kW)	9.6 (0.69kg/h)	9.6 (0.96kg/h)	19 (1.36kg/h)	9.6 (0.96kg/h)	9.6 (0.69kg/h)	9.6 (0.96kg/h)	28.5 (2.04kg/h)
	Natural gas (kW)	9.7 (8,300kcal/h)	9.7 (8,300kcal/h)	19.2 (16,500kcal/h)	9.7 (8,300kcal/h)	9.7 (8,300kcal/h)	9.7 (8,300kcal/h)	28.7 (24,700kcal/h)

■ **The external appearance of the product may change without notice for improvement of quality.**

MEMO

RRA-155메뉴얼 2007.9.22 5:6 AM 페이지23

Rinnai

Rinnai

User's Manual

Commercial Gas Automatic Rice Cooker

RRA-103N(2levels)
RRA-153N(3levels)

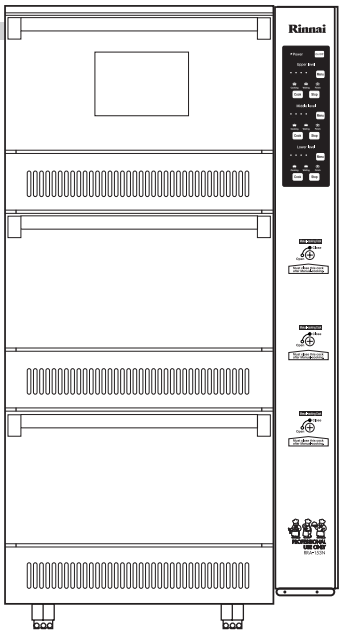
〈〈 **365days gas safety** 〉〉

-safe gas and merry society

-let's prevent gas accidents with caution and inspection

Korea Gas Safety Corporation

No Use For Semi-low Pressure or Mid-Pressure



- The picture above is RRA-153N
- This product is for commercial use that it is not to use at home.
- This user's manual must be read before use in order to use properly and prevent potential danger.
- This user's manual might be kept at a place easy to be found.